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Vital Statistics of a District in Java. By JOHN CRAWFURD, Esq.
With Preliminary Remarks upon the Dutch Possessions in the East.
 By LIEUT.-COLONEL W. H. SYKES, V.P.R.S.

[Read before the Statistical Section of the British Association, at Swansea,
 10th August, 1848.]

MR. CRAWFURD has obligingly transmitted to us some notes respecting the population of the district of Djocjocarta, in Java, at the period when he was employed in Java under the late Sir Stamford Raffles. Some of his deductions are so startling respecting the rapid progress of population, that I thought it desirable to run my eye over the successive censuses made by the Dutch, since their re-occupation of Java, to see whether Mr. Crawford's ratio of increase for a particular district extended to the whole island.

If the results are not quite in accordance with Mr. Crawford's, they nevertheless show a rapid advance, not only in population but also in commercial and agricultural industry, combined with extension of territory; and the growing importance of the Netherlands possessions in the East is so marked, that I have thought Mr. Crawford's paper offered a fit occasion for placing some of the leading facts on these various subjects before the Section. They are chiefly gathered from the monthly numbers of a journal recently established at Sincapoor, designated the Journal of the Eastern Archipelago, which it is to be hoped will in time circulate in Europe.

The superficial area of the islands of the Eastern Archipelago and of the Dutch possessions, is derived from the *Moniteur des Indes Orientales et Occidentales*, by Baron Melvill van Cárnbec, published in Holland.

	Square Geographical Leagues.	Square Myriameters.
Island of Java	2313·0	1269·1
Madura	97·3	53·4
Other Islands near Java	34·3	18·8
	2444·6	4341·3
Part of Sumatra and neighbouring Islands	4764·0	2614·0
Palembang, &c.	1875·0	1028·8
Part of Borneo and surrounding Islands	9343·0	5126·6
Celebes and Moluccas, &c.	5725·0	3141·0
Island of Timor, Bali, &c.	1230·0	675·0
Banka, Bintang, &c.	488·5	268·0
(Some fractional portions are omitted.)		
Total of Netherlands Possessions in the Indian Archipelago being	25872·0	14196·0

The Dutch, in fact, claiming five-sixths of the whole Archipelago, all Sumatra, except Acheen and three-fourths of Borneo. The total area

being 31,428 square geographical leagues, or 17,244 myriameters, exclusive of the Malay Peninsula and New Guinea. The whole of Borneo contains 12,743 square leagues, or 6,992 myriameters, and Sumatra 8,035 square leagues, or 4,403 myriameters.

The mean temperature of the Peninsula of Malacca is about 80°, the temperature of the whole year at Malacca varies only 14 or 16 degrees; 116 inches of rain fall on Flag Staff Hill, Penang, and 65½ on the Plains. In Province Wellesley, 79 inches. The number of rainy days vary from 145 to 228. The diurnal atmospheric tides, as indicated by the barometer, prevail regularly.

The chief matters respecting population and commerce, are from Temminck's Director of the Royal Museum of Natural History at Leyden: "*Coup d'œil General sur les Possessions Néerlandaises dans l'Inde Archipelagique*," published in Holland, the facts being supplied from official sources, and as it was advertised in the *Javasche Courant*, the only newspaper that is published in the Netherlands India, it is supposed to have the sanction of Government and to put forth the Government views. These views commence by professing the belief that no Government can be strong unless the people are happy; and to make them so, their customs and usages must be respected, and their well-being promoted by agricultural industry.

The total population of the Netherlands possessions is above twenty-five millions of souls.

Java, which is the most valuable portion of these possessions, is divided into 22 provinces or prefectures, called residencies. By the census of 1824 the population was 6,368,090 souls. By that of 1832, it was 7,323,982 souls. In 1834 it was 7,511,101 souls. In 1837, the number was 7,981,284 souls, and in 1838, it was 8,103,080 souls; and Dr. Bleecker, in a summary appended in 1845, makes it 9,542,045 souls. Sir Stamford Raffles, in 1815, during the English occupancy, made it only 4,605,270 souls, so that if these figures be correct, the population of Java has more than doubled itself in 30 years. Supposing Mr. Crawford's figures respecting Djocjocarta to be correct, and those of Dr. Bleecker to be equally correct, a more extraordinary advance of population than doubling itself in 30 years has never taken place. But my experience of India would lead me to doubt whether population really does make such rapid strides in the torrid zone. As the Dutch in 1824 found the population to amount only to 6,368,090 souls, and in 1845 to 9,542,045 souls, the increase in 21 years was 3,173,955, or a fraction more than 49 per cent.; while taking Raffles' figures as the starting point, the increase would be 5,936,775, or nearly 129 per cent., in 30 years. As the Dutch have made successive censuses, and have, therefore, had successive opportunities of testing their returns, such returns are less likely to be in error than the figures of a single census made in 1815. But taking another test, we have equal reason to doubt the accuracy of the English census. In 21 years, from 1824 to 1845, entirely under the Dutch, the increase was 49 per cent. Taking also 21 years from the date of the English occupancy, and running into the Dutch occupancy in 1837, the increase would be 73 per cent. for this period of 21 years, instead of 49 per cent. for the period when successive censuses were taken. The supposed progress, therefore, founded upon the English census, is open to question, par-

ticularly when it is compared with the progress in six kingdoms in Europe.

		Population.		Interval in Years.	Annual rate of Increase per cent.	$\lambda \tau$	Period of Doubling in Years.
		First.	Last.				
		Enumeration.					
1	Prussia, (1816-43)	10,349,031	15,471,765	27	1.500	0.0064674	47
2	England, (1801-41)	9,149,082	15,921,285	40	1.413	.0060933	49
3	United Kingdom, (1831-41)	24,404,422	27,044,239	10	1.030	.0044509	68
4	Austria, (1837-40)	20,975,258	21,571,594	3	.939	.0040583	74
5	Sweden, (1805-40)	2,412,772	3,138,887	35	.755	.0032646	92
6	France, (1801-41).....	27,346,995	34,230,178	40	.563	.0024375	128

The shortest period of doubling is 47 years, in Prussia, and the longest, 123, in France.

The metallic resources of the Archipelago, including the Malay Peninsula, appear extraordinary. Of the Malay Peninsula, it is said, in reality it probably abounds in some ores far beyond conception.—P. 102, No. of July, 1848.

Iron ores are every where found, and in the south they exist in vast profusion. At Sincapoor the roads are macadamized with an ore which contains 60 per cent. of pure metal.

The whole length and breadth of the Peninsula, there can be little doubt, abounds in tin ore. At the two extremities of the Peninsular zone of elevation, Junk Ceylon and Banka, tin sand is diffused in such quantities, that its collection has never had any other limit than the number of persons employed on it. In the Number of the Journal for August, 1847, page 77, it is said the miners (Chinese) are retiring with competence to their native country, and that above 50 mines have been opened. In Junk Ceylon and Phunga, under a barbarian Government, about 13,000 piculs are annually dug out of the soil. In Banka, under a European Government, without improved methods, the quantity has increased from 25,000 piculs, in 1812 when a British possession, to 60,000 piculs (Dr. Epp). The whole Peninsula produces as much as Cornwall, 100,000 piculs (6,000 tons); in short, the whole Peninsula may be considered as a great magazine of tin,—in fact, the greatest incomparably on the globe; but in Sincapoor no interest has been awakened on the subject. The Banka ore produces 80 per cent. of metal. Gold is found, but is not systematically dug for; the produce is probably not above 20,000 ounces. Copper, silver, and arsenic have been detected in Banka, but in small quantities.

The chief exports from the whole Archipelago were in 1826, 1836, 1841, and 1843 respectively—

	1826.		Dutch Florins.	1836.		Dutch Florins.
Coffee	340,049 Piculs of 125 lbs.	6,719,945	to 489,078 Piculs	15,090,362		
Sugar	19,795 " 	312,724	to 509,514 " 	9,093,141		
Tin	13,800 " 	667,510	to 47,739 " 	2,718,810		
Rice	5,895 Coyans of 3,375 lbs	636,166	to 36,438 Coyans	3,389,615		
Indigo	76 Piculs 	44,972	to 407,798 lbs. 	1,122,382		

Exports.

	1841.		1843.
Coffee	961,468	Piculs	1,018,102 Piculs.
Sugar	1,031,094	"	929,769 "
Tin	48,339	"	45,705 "
Rice	676,212	"	1,108,774 "
Indigo	1,827,386	lbs.	1,890,429 lbs.

Neither raw silk nor gutta percha are amongst the exports.

The imports into Java and Madura in 1835, were—

Merchandise	15,554,416	Florins.
Specie	234,389	"
	17,865,805	"

in 2,082 Vessels of 96,752 Tons.

1,873 Dutch of 68,103 Tons.

210 Others of 28,739 Tons.

Of which British were 66 of 12,237 tons, and American 60 of 10,589 tons.

The principal imports are, from the Netherlands 4,059,661 florins, and from England 3,255,603 florins, and from France only 396,754 florins. The value of the exports in this year was 34,114,961 florins: 22,331,639 to Holland, to England 352,498 florins, France 573,243 florins, and America 659,724, but China and the Indian Archipelago come next after Holland, taking one-third of the whole value exported to Holland.

The value of the Imports in 1843 was, 32,370,987 Florins in 1844 was 36,479,663.
 " Exports " 60,347,872 " " 71,963,708.

The value of English imports having reached 3,694,426, while those from France and America, had remained nearly stationary.

The exports to England had increased to 1,463,726 florins, and to France 1,319,839 florins, to the Netherlands 38,733,215 florins, and to China and the Eastern Archipelago, to nearly 13 millions, being again one-third of the value of the exports to Holland.

The Ships Arrived in 1843 were, 1,597 of 120,542 Tons.
 " Departed " 1,750 of 131,673 Tons.

By a communication made by the Colonial Minister to the Second Chamber of the States Government for 1844, the financial affairs of the Netherlands Indian possessions appeared to be as follows:—

Total Receipts for Netherlands India, 81,784,671 Florins.	
Of this, Farms give	14,771,018 Florins.
Territorial Revenues	11,135,313 "
Miscellaneous	6,799,428 "
Trade and Culture, including Auctions in Holland	44,525,522 "
Sumatra	2,640,491 "
Extraordinaries	574,564 "

Expenses.

a. Colonial Administration.....	75,494,285 Florins.
b. Payments on account of Third Parties	1,701,264 "
c. Difference under date, Dec. 31, 1843, in the Administrative Capital, fixed at 12,500,000 florins, of which two-fifths are in Silver and three-fifths in Copper	4,589,122 "
	81,784,671 "

The real expenses in India are,

Administration	59,806,536	Florins.
Payments on account of Third Parties	575,774	„
Difference of the Administrative capital in 1843.....	4,589,122	„
Total Real Expenses in India	64,971,432	„
The Real Receipts in India	49,194,603	„
Deficit in India	15,776,829	„
Total Receipts in Europe	32,980,427	„
Leaving a Surplus in Europe of	17,203,598	„
The Expenses in Europe	16,813,236	„
Surplus	390,562	„
But the deficit in India being converted into a Silver Standard } occasions a Surplus	1,847,724	„
Which subsequent accounts bring up to a final surplus	2,123,429	„

Temminck, speaking of Java, says, "That the agricultural industry, the trade, and the navigation have taken a development unknown before the introduction of the new system of culture in 1830. Since this memorable period, the single island of Java produces more articles fit for exportation, than all the other possessions put together. It is impossible to form an idea of the increase which these cultures may successively offer through the new changes that take place, for the extent of uncultured ground is still very considerable in the island. The climate, there, unites all the advantages which the tropic and the temperate zones afford, and the soil of an inexhaustible fertility, offers all guarantees for an increasing prosperity. Agriculture will never want arms in this country, seeing that the privileged classes reckon it a merit to cultivate the soil; that the Administration grants to the cultivator a distinguished rank in society, and that the prince and the nobility, to render themselves popular, often lend a hand to the labours of the field."—No. 4 of 1847, p. 220.

The national institutions of the Javanese are left as much as possible untouched by the Dutch. Villages have at their head a chief, assisted by a village-council. A number of villages make a regency, and over several regencies is a European resident, with assistants. Offices are hereditary in the several families. The subdivision and collection of the land-tax, in short, finance, police, and justice are managed by these authorities, and Europeans only interfere in cases of complaint, or criminal cases beyond the power of the native courts. In the provinces of Batavia, Buitenzorg, and Krawang, when the public lands have been sold to private persons, the village and municipal institutions have disappeared; and Temminck says, the good result is problematical—for such sales excite discontent amongst the Javanese. With them the lands are common property, and the revenue system is what is called Mouzewar in India. The village is assessed at a fixed sum, and the details of apportionment are left to the inhabitants. Sir Stamford Raffles endeavoured to introduce the Ryotwar system which obtains in part of India, but Temminck repudiates it.

General State of the Population of the Residencies of Java. From the Second Number for August, 1847, of the Journal of the Indian Archipelago.

Residencies and Assistant Residencies.	Surface in English Square Miles.	Euro-peans.	Chinese.	Natives.	Arabs, Bugis, &c.	Military as constituted in 1846.	Slaves.
Bantam	2,560	360	813	392,887	430	....	29
Batavia	663	3,478	31,764	242,927	598	....	2,376
Buitenzorg	1,064	662	7,462	252,015	....	....	172
Krawang	1,538	100	1,843	123,705	74	....	30
Preang, Regent-schapp	6,077	168	202	727,154	305	....	20
Cheribon	2,042	624	8,814	606,209	817	....	59
Tagal	850	274	788	292,934	2,820	....	58
Banjoemaas	1,589	150	1,640	403,852	....	....	12
Pekalongan	466	312	2,353	232,226	564	....	84
Bagelen	923	217	1,417	612,027	89	....	14
Samarang	1,423	2,883	9,657	739,098	2,277	....	582
Kadoe	631	174	2,484	354,377	73	....	3
Djocjocarta	926	664	1,063	345,696	55	....	47
Soerakarta	1,803	900	2,000	500,000	1,200	....	67
Japara	672	396	6,606	413,540	742	....	130
Madioen	1,580	113	1,059	312,975	102	....	18
Patjitan	773	30	100	89,077	....	....	9
Rembang	1,983	459	9,002	467,766	1,461	....	148
Kedirie	2,054	94	1,661	232,467	....	....	5
Soerabaija	2,029	2,736	5,111	923,687	4,427	....	907
Eiland Madura	1,557	368	6,544	280,314	8,522	....
Possoroean	1,784	578	2,229	331,981	1,163	....
Bezoekie	4,126	530	1,373	497,106	3,678	....	53
Total	39,113	16,270	105,983	9,373,989	29,397	11,295	5,111

Grand Total 9,542,045

Dr. Bleeker, Secretary to the Batavia Society of the Netherlands' Indian Medical Service, and the contributor of the above statement, proceeds thus to remark on it:—"The preceding table has been compiled from the newest census of the different residencies, to which access has been kindly given in the course of my journey through Java in 1846. Most of the lists contain the number of the census in 1845. That of the residency of Bagalen only is for 1843. The accuracy of the numbers is judged differently by the local authorities of the different residencies. Generally it may be considered that in none of the residencies are the numbers stated too high; in many they are certainly too low. The population of the residency of Bagalen, no census of which has been taken during the last three years, may certainly now be reckoned to amount to 700,000. There does not exist any regular statement of the census of the residency of Surakarta, but it may be foretold, that the improvements in the internal government of this populous residency, planned and already partly put in operation, will speedily admit of a census, the

result of which will probably be a figure of more than 800,000 souls. This I know respecting one of the greatest residencies of Java, that an exact nominal census of some districts gave a number nearly one-half higher than the figure of the negligent reckoning of the year before. We may confidently believe that at present the true number of the population of Java exceeds 10,000,000. About 30 years ago the number, according to Raffles, was scarcely 4,605,270, and thus not one-half of the present. It is scarcely necessary to mention here, that the inhabitants of the western residencies of Java are for the greater part Sundanese, those of middle Java proper Javanese, those of the eastern residencies for the greater part Madurese. The military are partly European, partly Africans, partly Javanese, Madurese, and Bugis. In the residencies of Batavia, Samarang, Bagalen, Djocjocarta, Madioen, and Surabaya, are the strongest garrisons. In the assistant residencies of Tagal, Pekalongan, Japara, and Rembang, there are no troops."

The above extracts will serve to give a sequence to Mr. Crawford's paper on the Vital Statistics of a District of Java, which would otherwise be wanting in the mind of the general reader. The following are its terms:—

I served various civil offices in Java during the British occupation of that island from 1811 to 1817, and living thus for six years among a people very good-natured, docile, accessible, and by no means wanting in intelligence, I enjoyed fair means of inquiry into the state of the population. This was confined chiefly to one locality, the city of Yogyakarta*, with its neighbourhood, the capital of the native prince, who assumes the title of Sultan, and at whose court I was at the time British agent.

Yogyakarta contained at the time the census was made, 1814, a population of about 40,000 inhabitants. It lies in an extensive and fertile plain, 12 miles from the southern shore of the island, and about 15 from the base of the mountain Marapi, an active volcano, about 10,000 feet high. The houses of the town are nearly hidden from view by groves of fruit, and ornamental trees always in verdure, and it is surrounded in every direction for many miles by an extensive cultivation, chiefly of rice by irrigation, of which one crop follows another with little interruption throughout the year.

The town of Yogyakarta is about midway between the eastern and western extremities of the island, and lies in south latitude 7° 40'. The average heat of the town and neighbourhood, little above the level of the sea, is about 83°, but in ascending Marapi, it gradually diminishes until ice is found at the summit of the mountain. Cultivation extends even so far up as where the thermometer falls at particular times to 55°, and here the garden vegetables of Europe are successfully cultivated. There is little difference of season except into wet and dry, the north-west monsoon bringing the first, and the south-east the last. The salubrity of the climate is equal, I should think, to that of any tropical one. The extensive culture of rice by irrigation has certainly no injurious effect. I never heard it even alleged, and, indeed, it may

* The Dutch orthography is generally very correct for the expression of native words, but in this particular case barbarous enough. The word is written Djocjocarta. It is Sanskrit, and a corruption of Ayudya-karta,—that is, "Ayudya (Oude, the country of Rama,) arranged, or put in order." The etymology is mythical.

be observed, that the wildest parts of Java or those in which rice is least cultivated, are the most unhealthy.

The first statement which I offer to the Section, is the abstract of a tabular view of the population of the capital, drawn up at my request by the native authorities. The town is divided into quarters, called in the native language *Campung*, a word, which, in fact, means a village, and conveys a correct notion of what a Javanese town truly is, not an assemblage of dwellings laid out into streets, lanes, and squares, but an aggregate of villages, generally parted from each other by stone walls, or bamboo fences.

Number of married men	10,188
Number of married women	10,355
Number of widowers	1,479
Number of widows.....	1,919
Number of unmarried lads	2,972
Number of unmarried girls	2,313
Number of boys not circumscribed	3,956
Number of girls, whose teeth have not been filed	3,274
Number of male infants at the breast	1,721
Number of female infants at the breast	1,447
Total Population.....	39,624

The number of dwelling-houses is stated in the return at 10,271, and the number of out-houses at 7,354. The dwelling-houses are, for the most part, neatly constructed huts, covered with thatch and of a single story, and the inmates for each house are under four persons. The married parties exceed one-half of the whole population, and these, including those who have been married, form above 64 in a 100 of the whole inhabitants.

The persons designated in the table as unmarried lads and girls, are not what would be called in Europe bachelors and spinsters, but mere children, who have just attained the age of puberty, and who are soon to be married. Marriage is a little longer delayed with the male sex, and this may account for their exceeding the females by above 28 per cent.

The next two headings, "lads who have not been circumscribed," and "girls who have not had their teeth filed," are literal translations from the original Javanese writing. The ceremonies referred to are, in fact, performed at the age of puberty, and this class, of course, includes children from the time they are weaned up to that period.

In the two next headings, male and female infants at the breast, the males again exceed the females by above 12 per cent., a discrepancy, which, if the return be reliable, is not easily accounted for. It may be, however, that from greater care, more male than female children are reared, although the character of the Javanese would hardly bear out this inference.

On comparing the whole male with the whole female population, we find 20,316 of the first, and 19,308 of the last, showing a small excess in the males of about 5.10 per cent., which may be accounted for by few of the men emigrating or being engaged in dangerous employments, as well as by the presence of a considerable number of men from the provinces without their families, performing *corvée* labour for the prince.

By comparing the number of married men with the women, the excess of the latter is but very trifling, viz., 167 in 10,188, we see that the effect of polygamy is almost imperceptible, a conclusion readily assented to, adverting to the principle, which guides increase of population. The widows exceed the widowers by nearly 30 per cent, but the class designated widows, includes, if I remember well, a good many persons of easy morality, who go commonly by another name.

The next statement which I offer to the Society, is the result of my own personal inquiry. Some travellers, in order to account for the supposed prevalence of polygamy in the East, had asserted that a great excess of females over males was born, and Java, in particular, had been quoted as an example. Anxious to test the truth of this notion, I personally took down the statements of 141 aged women on the subject. The details, as given by each individual, are now before me, and the following is an abstract of the Table in which they are set down. The parties were all in humble, but still easy circumstances, as, indeed, in my time, was the case with the Javanese generally.

Number of male children	472	Died of small-pox	102
Number of female children....	547	Died of other diseases	549
	<hr/>		<hr/>
Total births	1,019	Total mortality	651
Lived to the age of marriage			368

From this statement it will appear, that the proportion of females born exceeds the males by 15·88 per cent., or that they are as 111·66 to 100; I give this statement exactly as I find it in my notes. The result, I remember, surprised me at the time I made the inquiry, differing so widely as it does from our European experience. An experiment, on a larger scale, might, indeed, perhaps give a different result. According to the census of the eastern part of Java, taken in 1815, the females exceed the males by about 4 per cent. In one district only, the eastern portion of Madura, there is a great preponderance of females, who are to the males in the proportion of 110 to 100. I confess I am disposed to place some confidence in this return, from its going more into details than any other part of the census, and from knowing that it was prepared by a most intelligent native chief, the late Panámbahan, or Prince of Sumanah. The population to which it refers, amounted to 96,389 persons all natives of the island of Madura. It may be observed that the Javanese and other islanders, are themselves unaware of any disparity existing in the proportional numbers of the sexes.

Out of the 141 women examined, 7 only, I find, bore no children. Three only bore 1 child each, while 39 had had 10 children or upwards. Three had had each 14 children, 1 had 15, and 2 had 16. The average for the whole 141 was 7·226.

The age of marriage mentioned in one heading of the statement, means the age of puberty, when both sexes are deemed eligible for matrimony. Of the 1,019 children born, it appears that there died no fewer than 651, or 63 out of a 100 before the age of 14 or thereabouts. Of these, nearly one-tenth were carried off by small-pox. In making their statements, a woman would use such a significant expression as

the following: "I had eleven children born to me, but I landed only three."

The last statement which I submit to the Society, is drawn from a tabular view of the population of certain villages in the locality already described, including a portion of the town of Yugyakarta. The inquiry was conducted by myself personally, with necessary native assistance, and extended over many months. It is confined to a single year, that in which it was made, 1815-16. The obvious reason for this restriction was that the treacherous memories of the natives could not be safely relied on for a longer period, than from the festival of one year to the same in the ensuing one—a period so well defined, and so short, as to be little amenable to error. The following is an abstract,—

Number of villages	188
Amount of population	40,688
Number of marriages within the year.....	514
Number of births within the year	1,691
Number of deaths within the year	696

The size of the villages was very various, ranging from 20 inhabitants up to 390. The mean was about 180. The proportion of marriages to the population appears from this statement, to be about 1 in 79, but I believe them, in reality, to be much more numerous, for those given include only the marriages of youths and virgins, no notice being taken of second, third, and even fourth marriage, which are not unfrequent with the Javanese, among whom the marriage-knot is easily, and often capriciously untied.

The proportion of deaths to the population appears to have been 1 in 58, and of the births 1 in 24, while the proportion of the excess of the births above deaths to the whole of the living is as 1 to 40. The period in which the population would double itself, therefore, would be 28 years. Imperfect and limited, as were the data, on which this calculation is founded, it is, probably, not an exaggeration, judging by a comparison of the census of the population of the whole island made in 1815 with that made in 1845. The first of these gave a population of 4,175,974, and the last of 9,542,045, which shows that the number had more than doubled itself in 30 years.

But the births and deaths bear very different proportions to each other, and to the whole population in the different localities in which my inquiry was conducted, and I shall give a few of the results, embracing a population, partly country and partly town, of 26,558.

1. In 11 villages, two miles from Yugyakarta, with a population of 2,021, the births were, 1 to 24, and the deaths 1 to 47 of the population. The proportion of the excess of births above deaths to the whole of the living, would, therefore, give a doubling period of 34·30 years. To this group, as well, indeed, as to all the others which follow, the same observation applies that I made in regard to the town. They are all surrounded by irrigated rice-culture, and all embosomed in, and interspersed by fruit and ornamental trees, appearing, in fact, until entered, more like groves, than assemblages of dwellings.

2. In 9 villages, situated on the elevated land at the foot of the mountain Marapi, and containing a population of 2,056 inhabitants,

the births were 1 to 19, and the deaths 1 to 62 to the population. The excess of the births above the deaths gave here, therefore, a doubling period of 19 years.

3. Eighteen villages, with a population of 2,170, situated on the southern acclivity of Marapi, and higher up than the last group, gave the births as 1 to 18, and the deaths 1 to 94 to the inhabitants, making the doubling period here 15.59 years. These villages are situated, at from 2,000 to 3,000 feet above the level of the sea, and the average heat may be taken at from 75° to 78°. None of them, at the time of the inquiry, had been settled above 20 years, and some of them as late as three. The fertile land was abundant, and the command of water for irrigation complete. From the recentness of their establishment also, they were less encumbered with trees, and consequently better ventilated.

4. Seventeen villages, distant 6 miles from Yogyakarta in a flat, fertile, and highly cultivated part of the plain, with a population of 2,935, gave the births as 1 to 30, and the deaths as 1 to 101 of the population. The excess of the births over the deaths gave here a doubling period of 30.84 years.

5. Seven villages, situated on the southern coast of the island, and about 17 miles from Yogyakarta, with a population of 2,187, gave the births as 1 to 30, and the deaths as 1 to 99, and the excess of births over deaths made the doubling period 30 years. Besides cultivating rice by irrigation, the inhabitants of these villages were occasionally, but precariously, owing to the great depth of the sea, and the heavy surge rolling on the open shore, one may say, without any interruption from the pole, employed in fishing. They were employed more largely in the manufacture of salt by a very peculiar process, which consists in throwing water from the sea on the sands of the beach, which, as soon as they are dry, and this, from the heat of the sun, takes place in a few minutes, are raked up and thrown into sea-water, so that concentrated brine is immediately obtained, which is boiled into salt.

6. Eleven villages, with a population of 2,268, 10 miles distant from Yogyakarta, and in a rich and flat plain, in which are scattered the ruins of the ancient Hindu Temples of Brombanan, gave the births as 1 to 27, and the deaths as 1 to 113 to the population, and the excess of births over deaths made the doubling period 25.298 years.

7. Eight kampungs of the town of Yogyakarta, containing 2,877 inhabitants, gave the births as 1 to 24.59, and the deaths as 1 to 39.80 to the population. The excess of births over deaths gave here, therefore, a doubling period of 45.40 years.

8. Another portion of the town, comprising three kampungs, with a population of 2,689, gave the births as 1 to 29.54, and the deaths as 1 to 56, the excess of the first over the last making the doubling period 43.662 years.

9. Sixteen inclosures, with a population of 4,014, within the palace walls, gave the births as 1 to 26.50, and the deaths as 1 to 44, while the excess of births made the doubling period 45.40 years.

10. Eight kampungs in the heart of the town of Yogyakarta, with a population of 3,391, gave the proportion of 1 birth in 29, and 1 death in 47. The preponderance of the last over the first, would give a doubling period of 56 years.

For convenience, I give all the details in a tabular form:—

No.	Popu- lation.	Number of Marriages.	Num- ber of Births.	Num- ber of Deaths.	Marriages to Popu- lation.	Births to Popu- lation.	Deaths to Popu- lation.	Excess of Births above Marriages per cent.	Doub- ling Period.
1	2,021	29	84	43	65	24	47	95	34·30
2	2,056	21	109	33	98	19	62	230	19
3	2,170	20	119	23	108	18	94	417	15·59
4	2,935	37	95	25	79	30	101	227	30·84
5	2,187	15	72	22	145	30	99	227	30
6	2,268	28	83	20	81	27	113	315	25·29
7	2,877	33	117	73	87	24	39	60	45·40
8	2,689	38	91	48	70	29	56	89	43·66
9	4,014	38	151	90	105	26	44	67	45·40
10	3,341	56	112	71	59	29	47	57	56

From these statements it will appear, that the births are fewest, and the mortality greatest in the town, while the opposite state of things prevail in the country, and especially in the more elevated part. All this is in accordance with our European experience. Even to the native constitution the clear air of the mountain side, with the thermometer between 70° and 80°, would appear to be more conducive to health, than the close atmosphere of the plain, where it is between 80° and 90°. Another inference may fairly be drawn from this inquiry, limited as it is, that a native population under the tropics, in the enjoyment of peace, with a fair share of industry, a sufficiency of fertile land, and a favourable climate, may increase as an European one in a temperate climate with similar advantages.

I am quite sensible of the limited and imperfect nature of the statements I am now submitting to the Statistical Section, and I furnish them only because I am not aware that any of a similar nature for a tropical climate, and an indigenous population, have been laid before the public. Baron Humboldt's, for some villages in Mexico, are the nearest approach, but they relate, not to a purely native, but to a mixed native and European population.

Remarks on the Plan adopted for taking the Census in 1841, with suggestions for its improvement. By the Rev. E. WYATT-EDGELL.

[Read before the Statistical Society of London, 20th November, 1848.]

OF the five enumerations which have been made of the people of Great Britain, four merely gave the numbers of individuals resident in each parish and county; together with some information, more or less detailed, concerning their ages, occupations and dwellings. But the last census made in 1841, was far more comprehensive. It was a catalogue strictly so called; for it not only recorded the number of individuals, but it also gave the name and description of each. In theory therefore, nothing could be more perfect than the census of 1841; but there were imperfections in the *practical arrangement*, which have prevented its producing all the benefit which might